Please amend the claims as follows:

1.   1.   (*Amended*) A method for analyzing the capacity of an application executing on a parallel
2.   processing system and expressed as a graph of vertices, comprising the steps of:
3.   (a)   creating a description of the sizes of data records throughout the graph;
4.   (b)   creating a performance description of each vertex in the graph;
5.   (c)   determining an execution time for each vertex in the graph;
6.   (d)   determining counts of data records assigned to corresponding vertices in the graph;
7.   and
8.   (e)   [creating] <u>outputting</u> a description of the total execution time and performance of the
9.   system based on the determined execution time and counts of data records.

1.   2.   (*Amended*) The method of claim 1 further comprising the steps of:
2.   (a)   creating multiple descriptions of the total execution time and performance of the
3.   system based on multiple input data sets; [and]
4.   (b)   creating a comparison of the multiple descriptions<u>; and</u>
5.   <u>(c)</u>   <u>outputting such comparison.</u>

1.   3.   (*Amended*) A method for analyzing the capacity of an application executing on a parallel
2.   processing system and expressed as a graph of vertices and links given a set of supplied
3.   values, comprising the steps of:
4.   (a)   creating a description of the vertices and links of the graph including connections
5.   between vertices and links, data processing rates, and amounts of data;
6.   (b)   generating performance characteristics of the application based upon the description,
7.   and the set of supplied values, including total execution time, resource requirements,
8.   and capacity of the application;
9.   (c)   providing a means such that the supplied values can be altered, creating altered
10.   values; [and]
11.   (d)   re-generating performance characteristics of the application based on the altered
12.   values<u>; and</u>
13.   <u>(e)</u>   <u>outputting such performance characteristics.</u>

1 4. (*Amended*) The method of claim 3 further comprising the steps of:

2 (a) accepting multiple sets of supplied values;

3 (b) generating performance characteristics of the application for each set of supplied
4   values;

5 (c) calculating sets of estimated values by applying trend equations to the multiple sets
6   of supplied values;

7 (d) generating performance characteristics of the application based on the estimated
8   values; and

9 (e) [displaying] <u>outputting</u> the performance characteristics based on each set of supplied
10   values and based on the estimated values.

1 5. (*Amended*) A method for analyzing the capacity of an application executing on a parallel
2   processing system and expressed as a graph of vertices and links given a set of supplied
3   values, comprising the steps of:

4 (a) creating a description of the vertices and links of the graph including connections
5   between vertices and links, data processing rates, and amounts of data;

6 (b) generating performance equations based upon the description which will calculate
7   performance characteristics of the system including total execution time, resource
8   requirements, and capacity of the application;

9 (c) applying the performance equations to the supplied values;

10 (d) providing a means such that the supplied values can be altered, creating altered
11   values; [and]

12 (e) applying the performance equations to the altered values<u>; and</u>

13 <u>(f)</u> <u>outputting the results of the applied performance equations.</u>

1   6.   (*Amended*) The method of claim 5 further comprising the steps of:

2   (a)   accepting multiple sets of supplied values;

3   (b)   applying the performance equations to each set of supplied values;

4   (c)   generating trend equations based upon the multiple sets of supplied values;

5   (d)   calculating sets of estimated values by applying the trend equations to the multiple

6   sets of supplied values;

7   (e)   applying the performance equations to the estimated values.; and

8   (f)   providing a means of [displaying] <u>outputting</u> the supplied values, the estimated

9   values, and stored results.

1   7.   (*Amended*) A computer program for analyzing the capacity of an application executing on

2   a parallel processing system and expressed as a graph of vertices and links given a set of

3   supplied values, the computer program being stored on a media readable by a computer

4   system, for configuring the computer system upon being read and executed by the computer

5   system to perform the functions of:

6   (a)   creating a description of the vertices and links of the graph including connections

7   between vertices and links, data processing rates, and amounts of data;

8   (b)   generating performance characteristics of the application based upon the description,

9   and the set of supplied values, including total execution time, resource requirements,

10   and capacity of the application;

11   (c)   providing a means such that the supplied values can be altered, creating altered

12   values; [and]

13   (d)   re-generating performance characteristics of the application based on the altered

14   values<u>; and</u>

15   <u>(e)</u>   <u>outputting such performance characteristics.</u>

8. *(Amended)* The computer program of claim 7 further comprising the functions of:

    (a)   accepting multiple sets of supplied values;

    (b)   generating performance characteristics of the application for each set of supplied values;

    (c)   calculating sets of estimated values by applying trend equations to the multiple sets of supplied values;

    (d)   generating performance characteristics of the application based on the estimated values; and

    (e)   [displaying] <u>outputting</u> the performance characteristics based on each set of supplied values and based on the estimated values.

9. *(Amended)* A computer-readable storage medium, configured with a computer program for analyzing the capacity of an application executing on a parallel processing system and expressed as a graph of vertices and links given a set of supplied values, where the storage medium so configured causes a computer to operate in a specific and predefined manner to perform the functions of:

    (a)   creating a description of the vertices and links of the graph including connections between vertices and links, data processing rates, and amounts of data;

    (b)   generating performance characteristics of the application based upon the description, and the set of supplied values, including total execution time, resource requirements, and capacity of the application;

    (c)   providing a means such that the supplied values can be altered, creating altered values; [and]

    (d)   re-generating performance characteristics of the application based on the altered values<u>; and</u>

    <u>(e)</u>   <u>outputting such performance characteristics</u>.

1 10. (*Amended*) The computer-readable storage medium of claim 9 further comprising the
2   functions of:
3   (a) accepting multiple sets of supplied values;
4   (b) generating performance characteristics of the application for each set of supplied
5   values;
6   (c) calculating sets of estimated values by applying trend equations to the multiple sets
7   of supplied values;
8   (d) generating performance characteristics of the application based on the estimated
9   values; and
10   (e) [displaying] <u>outputting</u> the performance characteristics based on each set of supplied
11   values and based on the estimated values.

Please add the following claims:

11. A computer program, stored on a computer-readable medium, for analyzing the capacity of an application executing on a parallel processing system and expressed as a graph of vertices and links given a set of supplied values, the computer program comprising instructions for causing a computer system to:

(a) create a description of the vertices and links of the graph including connections between vertices and links, data processing rates, and amounts of data;

(b) generate performance characteristics of the application based upon the description, and the set of supplied values, including total execution time, resource requirements, and capacity of the application;

(c) provide a means such that the supplied values can be altered, creating altered values;

(d) re-generate performance characteristics of the application based on the altered values; and

(e) output such performance characteristics.

12. The computer program of claim 11, further comprising instructions for causing the computer to:

(a) accept multiple sets of supplied values;

(b) generate performance characteristics of the application for each set of supplied values;

(c) calculate sets of estimated values by applying trend equations to the multiple sets of supplied values;

(d) generate performance characteristics of the application based on the estimated values; and

(e) output the performance characteristics based on each set of supplied values and based on the estimated values.